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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/248,768	02/12/1999	DIKRAN S. BABIKIAN	SVG-771	9181

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EXAMINER

FORD, JOHN K

ART UNIT PAPER NUMBER

3753

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/248,768

Applicant(s)

BABIKIAN ET AL.

Examiner

John K. Ford

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on July 16, 2004
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 27 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Applicant's response has been carefully considered. An RCE with a preliminary amendment having new claim limitations was filed July 16, 2004. The new limitations and the arguments are addressed in the rejections that follow.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 27 and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no original disclosure to support these limitations. The only disclosed "contact media" are found on page 8 of the specification and do not include refrigerated coils or tubes.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 6-8, 12, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0,766,050 in view of JP 59-84617 and Wright (USP 5,584,183).

EP '050 discloses a contactor 10 having spray nozzles 64 for fluid, inlet 53 and outlet 50 for air, packing 65, a heater 68 and an outlet for liquid attached to pump 18. Water in the tower 10 is treated by a chiller as disclosed in col. 9, lines 1-7 and claim 13, penultimate paragraph, and

Fig. 3, block 59. Temperatures sensors 27 and 29 perform the same functions as the temperature sensors claimed, by applicant, before and after the heater. Filters are shown at 40 and 48.

No actual set-point device is disclosed which accepts settings for relative humidity and temperature and computes the required temperatures for the controller(s) connected to sensors 27 and 28. It is clear, however, that EP '050 contemplates controlling the temperatures at 27 and 29 to attain predetermined temperature and humidity values as described in cols. 8 and 9 under Example 1-2 and claim 12 of EP '050.

JP '617 teaches computing a dew-point temperature (i.e. saturation temperature such as measured by sensor 27 in EP '050) from a set-point temperature and a set-point relative humidity. To have use a suitably programmed computer to control the chiller of EP '050 and reheater 68 of EP '050 responsive to temperature 27 and 29 (as already disclosed in EP '050) would have been obvious and to have used the programmer algorithm of JP '617 to permit the user to conveniently input the desired dry bulb temperature for comparison to sensor 29 and the desired dew-point temperature for comparison to sensor 27 from set-points for RH and temperature would have been obvious from JP '617.

Regarding the use of a thermoelectric chiller, these are well known as taught by Wright as a replacement for ordinary freon-based chillers. See col. 1, lines 12-27, incorporated here by reference. To have used a thermoelectric chiller to cool the water in EP '050 (see block 59, Fig. 3, col 9, lines 1-7 and claim 13 penultimate paragraph) would have been obvious because, as taught by Wright they are "clean, environmentally friendly, solid state alternative" to conventional freon based chillers.

Regarding claims 27 and 28, to the extent that they are descriptive of applicant's own disclosure they are descriptive of this prior art.

Finally, the totality of P-type and N-type elements in Wright are known as a matrix as evidenced by col. 9, line 30 of Reich (3,564,860) which forms no part of this rejection except to show conventional knowledge in the art.

Claims 1, 2, 6-8, 12, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of the prior art as applied to claims 1, 2, 6-8, 12, 27 and 28 above, and further in view of JP 8-5131.

JP '131 teaches, in yet greater detail, how to take dry bulb temperature and relative humidity set points (input at the right side of box 15) and process a dew-point (saturation) temperature "tmp" to be compared to a saturation temperature "tm" and used by a controller 18. The same two inputs (to the right side of box 15) are also used to control heater 5 based on temperature "ta" being compared with "tpo" (the dry bulb temperature set point).

Claims 1, 2, 6-8, 12, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of the prior art as applied to claims 1, 2, 6-8, 12, 27 and 28 above, and further in view of Curtis et al.

Curtis shows a chiller heat exchanger 26 which would have been obvious to use in EP '050 in the pump line connected between pump 18 and spray nozzles 27 to perform the cooling function described in col. 9, lines 5-9 of EP '059. Such a position would advantageously aid in servicing the unit.

Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of the prior art as applied to claims 1 and 7 are above, and further in view of Powers.

Powers shows a liquid distributor (see Figure 2) in which the reactive force of the liquid rotates the distributor. To have added/substituted such a distributor to the prior art to improve liquid distribution to the solid media and thereby improve the degree of saturation would have been obvious.

Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of the prior art as applied to claims 1 and 7 above, and further in view of Asakawa (5,086,829) or Litzberg (4,951,738).


Asakawa & Litzberg each two electronic level sensors to maintain liquid levels between to set limits. To have used such conventional electronic level controllers in the prior art to maintain the water in the sump at the required level for operation would have been obvious.

Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of the prior art as applied to claims 1 and 7 are above, and further in view of Goettl (4,333,887)

Goettl discloses a system, which prevents scale build-up in a direct contact cooling system (such as disclosed in prior art) by periodically draining the lime concentrated liquid and refilling the sump with fresh water, under time control.

To have configured the microcomputer control system of the prior art discussed above with a timer to periodically send a signal to a solenoid (72) to operate a drain valve would have been obvious to one of ordinary skill to keep the mineral deposits down, as taught by Goettl.

Any inquiry concerning this communication should be directed to John Ford at telephone number (571) 272-4911.



John K. Ford
Primary Examiner